

UNIVERSITI TEKNOLOGI MARA

TECHNICAL REPORT

GENERATING ARABESQUE DESIGN OF MASJID  
NABAWI SLIDING DOME BY A COMPUTER  
SOFTWARE

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Report submitted in partial fulfillment of the requirement  
for the degree of  
Bachelor of Science (Hons.) Mathematics  
Center of Mathematics Studies  
Faculty of Computer and Mathematical Sciences

JANUARY 2018

## ACKNOWLEDGEMENTS

In the Name of Allah, The most Gracious, The most Merciful.

First of all we would like to thank the Almighty God as we are finally able to finish our project. This project report could not have been accomplished without cooperation and splendid support of all those who inspires and encouraged us during our project.

A special gratitude to our final year project supervisor, Madam Wan Roslini Binti Wan Yusoff, whose contribution in stimulating suggestions and encouragement, helped us to coordinate our project especially in writing this report.

Besides, a special thanks to our coordinator of the Final Year Project, Madam Wan Khairiyah Hulaini binti Wan Ramli for giving full effort to guide us with beneficial information that we can apply to our project. On the other hand, we would like to thanks to our panels, Dr Mathuri A/P Selvarajoo and Madam Maziah binti Mahmud for their comment to improve our project.

Last but not least, a very special thanks to our families and friends because of their help and support in completing this project.

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## **ABSTRACT**

Arabesque design is well known to be an epitome of Islamic art, and was developed as early as in the eighth century in middle East. Traditionally, arabesque design is drawn by hand where the eccentric and aesthetical values of the design are highly regarded and appreciated. This research focus on how to generate an arabesque design by using mathematical software in order to gave a new way or perspective in producing an arabesque design. In this research the arabesque design of Masjid Nabawi sliding dome have been designed with the usage of Maple software. Mathematical transformations such as rotation, reflection and translation are used in order to complete the arabesque design.

# 1 INTRODUCTION

In this section, review of Islamic art and arabesque are given. A background of the research is presented. We have also highlighted the problem statements, objectives, scope and significance of the project.

## 1.1 Research Background

Islam is one of the greatest religions of the world. Islam emerges in South Arabia in the 7th century when Prophet Muhammad received revelation from Allah to restore the glory of Islam in this world. Islam taught covers all aspects in human life such as legislation, family institution, marriage, economy, muamalat and even art.

Art synonym with creativity and aesthetics. Hadith narrated by Sahih Muslim state, "Allah is beautiful and loves beauty." [Sahih Muslim]. Some of the arts is related with religion such as Islamic art and Christian art. In Islam, art is one of medium of delivering the messages of Islam. It is known as Islamic art.

Islamic art emerge together with the development of Islam in the middle east. Nowadays, the term Islamic did not bring a meaning of religion or relate with any worshiping of the art produced. According to Saoud (2004), other arts such as Byzantine art basically incorporate Christian themes into it. Islamic art consists of figurative art that reflected man and nature as image of divine. Religious beliefs of Islamic art have cultural values prohibiting the depiction of living creatures including humans as stated by Singh (2017). Muslims believe that depiction of human is idolatry. This term is known as aniconism. The most forbidden representation is the figural representation of Allah and depiction of Prophet Muhammad and Islamic prophets. Islamic art composed of abstract forms instead of natural objects. Prisse argued that there are three types of Islamic art that are floral, geometrical and calligraphic as quoted in Jiwani (2011).

Islamic art is not only restricted to religious architecture such as mosque but also includes at Palaces and Tombs. Islamic art applied on less importance buildings such as fountains,